UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,652	10/26/2001	Stephen A. Thomas	08286.105004	1907

20786 7590 11/18/2004		EXAMINER
KING & SPALDING LLP		BELLO, AGUSTIN

ART UNIT	PAPER NUMBER
2633	

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DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/045,652	THOMAS ET AL.
	Examiner	**Art Unit**	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-33* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date *7/22/04, 2/26/04*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☒ Other: *IDS 6/20/03, 3/24/03*.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Zheng

(U.S. Patent No. 6,611,522).

Regarding claims 1, 24, and 25, 27, 30, Zheng teaches an optical network system

comprising: an optical tap routing device (reference numerals 94, 96 in Figure 7), a

plurality of optical tap multiplexers (reference numeral 130, 132, 134, 136, and 138 in

Figure 9) for receiving downstream packets (reference numeral 150 in Figure 9) from the

optical tap routing device, the optical tap routing device determining which downstream

packets are sent to a respective multiplexer (e.g. according to ATM of IP in Figure 7),

each optical tap multiplexer comprising: a plurality of classifiers (reference numeral 120

in Figure 8) for determining type of information contained in a downstream packet and

for assigning a downstream packet to a particular policer (reference numeral 122 in

Figure 8) , and a plurality of policers (reference numeral 122 in Figure 8) for controlling

bandwidth based upon a comparison between parameters assigned to each policer by a

network provider and a downstream packet.

Regarding claims 2 and 31, Zheng teaches that the parameters assigned to each policer comprise at least one of a peak rate, a burst size, and a sustained rate (column 21 lines 21-23).

Regarding claims 3 and 28, Zheng teaches that each policer controls bandwidth by assigning a weighted early random discard value to the packet (e.g. inherent in the use of Random Early Detect elements and method described in column 4 lines 51-59).

Regarding claim 4, Zheng teaches that each optical tap multiplexer further comprises a plurality of output buffers (reference numeral 136, 148 in Figure 9) for storing at least one downstream packet received from a respective policer.

Regarding claim 5, Zheng teaches a plurality of output buffers (reference numeral 138, 146 in Figure 9), each output buffer having an assigned priority value that is associated with an output buffer emptying sequence (column 5 lines 40-48).

Regarding claims 6 and 26, Zheng teaches that each output buffer evaluates a packet with a random early discard function that employs the weighted early random discard value (column 15 lines 11-14).

Regarding claims 7 and 29, Zheng teaches that the weighted early random discard value comprises a maximum drop probability value (inherent in the Random Early Detect method taught by Zheng).

Regarding claims 8, 22, 32, and 33, Zheng teaches a plurality of output buffers (reference numeral 138, 146 in Figure 9), each output buffer executes a random early discard function for a packet when an output buffer average volume is between a minimum and maximum threshold (column 15 lines 11-14), the random early discard

function employing the maximum drop probability value (inherent in the Random Early

Detect method taught by Zheng).

Regarding claim 9, Zheng teaches that parameters assigned to a policer

correspond with a bandwidth subscription of a subscriber (QoS throughout Zheng).

Regarding claim 10, Zheng teaches that the bandwidth subscription measures a

predetermined amount of a data to be received by a subscriber in bits per second

(inherent).

Regarding claims 11 and 23, Zheng teaches that one of the classifiers evaluates a

differentiated service code point (DSCP) value of each downstream packet (column 16

lines 6-33).

Regarding claim 12, Zheng teaches that each classifier and each policer comprises

one of a Field programmable gate array (FPGA) and an application specific integrated

circuit (ASIC) (column 10 line 65 - column 11 line 5).

Regarding claim 13, Zheng teaches classifying a downstream packet by

evaluating a header of the packet (e.g. via classifier reference numeral 120 in Figure 8);

determining if the downstream packet matches at least one of rate and size parameters

(e.g. via policer reference numeral 122 in Figure 8); assigning one of two priority values

to the downstream packet based upon the determination if the downstream packet

matches one of rate and size parameters (e.g. according to QoS requirements); and

determining whether to store a downstream packet in one of a plurality of buffers

(reference numeral 138, 146 in Figure 9) based upon a weighted random early discard

function that employs one of the priority values (e.g. inherent in the use of Random Early

Detect elements and method described in column 4 lines 51-59).

Regarding claim 14, Zheng teaches determining whether a downstream packet exceeds a sustained rate; and determining whether a downstream packet exceeds a burst size (e.g. via policer reference numeral 122 in Figure 8).

Regarding claim 15, Zheng teaches executing a token bucket algorithm to measure the sustained rate (column 21 lines 21-33).

Regarding claim 16, Zheng teaches determining if a downstream packet exceeds a peak rate; and discarding a downstream packet if the downstream packet exceeds the peak rate (e.g. via policer reference numeral 122 in Figure 8).

Regarding claim 17, Zheng teaches the step of executing a token bucket algorithm to measure the peak rate (column 21 lines 21-33).

Regarding claim 18 and 19, Zheng teaches that the step of assigning one of two priority values to a downstream packet comprises the step of assigning a maximum drop probability value to the downstream packet, wherein the maximum drop probability value based upon a determination of whether a packet matches sustained rate (column 12 lines 15-40).

Regarding claim 20, Zheng teaches that the communication traffic profile comprises one of a minimum bandwidth that a class or group of classes of subscribers is assured of receiving and a maximum bandwidth the subscriber can use over a time period (e.g. QoS throughout Zheng).

Regarding claim 21, Zheng teaches the step of removing one or more packets from a plurality of output buffers in a predetermined order that corresponds with priority assignment given to each buffer relative to other buffers. (column 5 lines 40-48).
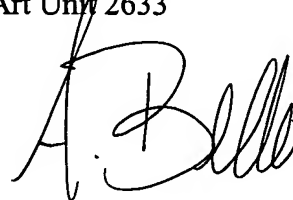
Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lin, Majd, Fang, and Dravida teach relevant art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
Art Unit 2633

AB